

Claims

- [c1] A mechanical door handle switch assembly integrated within a door of a vehicle and utilized for actuating a vehicle-based system, comprising:
 - a door handle coupled to the door for actuation by a user, said door handle being movable for actuating the vehicle-based system and unlatching the door;
 - a drive train mechanism coupled to said door handle and being actuated by said door handle;
 - a switch device operatively coupled to said drive train mechanism and being selectively closed by said drive train mechanism; and
 - a damping mechanism coupled to one of said door handle and said drive train mechanism for slowing movement of said door handle and said drive train mechanism.
- [c2] The mechanical door handle switch assembly recited in claim 1 wherein said door handle is movable within a predetermined travel distance, said door handle actuating said drive train mechanism and closing said switch device when said door handle is moved a substantially small portion of said predetermined travel distance.

- [c3] The mechanical door handle switch assembly recited in claim 1 wherein said door handle is movable within a predetermined travel distance, said predetermined travel distance including a switch-triggering distance and an unlatching distance that is greater than and inclusive of said switch-triggering distance, said door handle being moved by said switch-triggering distance for actuating said switch device, said door handle being moved by said unlatching distance for unlatching the door.
- [c4] The mechanical door handle switch assembly recited in claim 1 wherein said door handle has a pull configuration for unlatching the door.
- [c5] The mechanical door handle switch assembly recited in claim 1 wherein said door handle has a lift configuration for unlatching the door.
- [c6] The mechanical door handle switch assembly recited in claim 1 wherein said drive train mechanism is a gear mechanism.
- [c7] The mechanical door handle switch assembly recited in claim 1 wherein said drive train mechanism is a cam mechanism.
- [c8] The mechanical door handle switch assembly recited in

claim 1 wherein said drive train mechanism is a lever mechanism.

- [c9] The mechanical door handle switch assembly recited in claim 1 wherein said switch device is biased to an open position.
- [c10] The mechanical door handle switch assembly recited in claim 1 wherein said damping mechanism is a gas compression device.
- [c11] The mechanical door handle switch assembly recited in claim 1 wherein said damping mechanism is a viscous fluid device.
- [c12] A passive entry system for a vehicle comprising:
 - a controller;
 - a vehicle-based transceiver coupled to said controller;
 - a portable transponder carried by a user and utilized for communicating with said vehicle based transponder;
 - a switch device coupled to one of said controller and said vehicle-based transceiver, said switch device for actuating said vehicle-based transceiver to transmit a challenge signal to said portable transponder;
 - a drive train mechanism coupled to said switch device for closing said switch device;
 - a door handle coupled to the door for actuation by a

user, said door handle being movable within a predetermined distance including a switch-triggering distance and an unlatching distance that is greater than and inclusive of said switch-triggering distance, said switch-triggering distance for triggering said switch device and actuating said controller for determining whether said user is authorized to enter the vehicle, said unlatching distance for providing access to the vehicle; a locking mechanism coupled to and actuated by said controller, said locking mechanism for unlocking said door when said controller determines that said user is an authorized entity and before said door handle has moved by said unlatching distance; and a damping mechanism coupled to one of said door handle and said drive train mechanism for slowing movement of one of said door handle and said drive train mechanism.

- [c13] The passive entry system recited in claim 12 wherein said switch-triggering distance is substantially less than said unlatching distance.
- [c14] The passive entry system recited in claim 1 wherein said damping mechanism is a gas compression device.
- [c15] The passive entry system recited in claim 1 wherein said damping mechanism is a viscous fluid device.

[c16] A passively-actuated vehicle system comprising:
a controller;
a vehicle-based transceiver coupled to said controller;
a portable transponder carried by a user and utilized for
communicating with said vehicle based transponder;
a switch device coupled to one of said controller and
said vehicle-based transceiver, said switch device for ac-
tuating said vehicle-based transceiver to transmit a chal-
lenge signal to said portable transponder;
a drive train mechanism coupled to said switch device
for closing said switch device;
a door handle coupled to the door for actuation by a
user, said door handle for providing access to the vehi-
cle; and
a damping mechanism coupled to one of said door han-
dle and said drive train mechanism for slowing move-
ment of said door handle and said drive train mecha-
nism.

[c17] The passively-actuated vehicle system recited in claim
16 wherein said door handle coupled to the door for ac-
tuation by a user, said door handle being movable within
a predetermined distance including a switch-triggering
distance and an unlatching distance that is greater than
and inclusive of said switch-triggering distance, said
switch-triggering distance for triggering said switch de-

vice and said unlatching distance for providing access to the vehicle.

- [c18] The passively-actuated vehicle system recited in claim 1 wherein said drive train mechanism is at least one of a gear mechanism, a cam mechanism, and a lever mechanism.
- [c19] The passively-actuated vehicle system recited in claim 1 wherein said damping mechanism is a gas compression device.
- [c20] The passively-actuated vehicle system recited in claim 1 wherein said damping mechanism is a viscous fluid device.